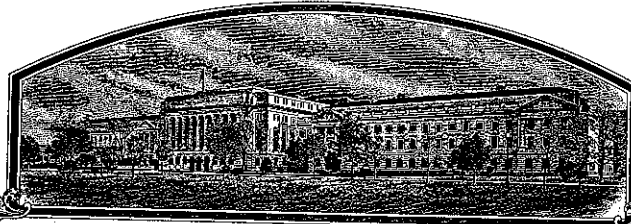


No.

200400296



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Idaho Research Foundation, Inc. (representing the interests of the Idaho
Agricultural Experiment Station and the University of Idaho.)

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC FULFILLMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

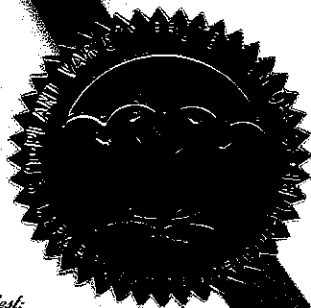
'Super Dirkwin'

In Testimony Whereof, I have hereunto set my hand
and caused the seal of the Plant Variety
Protection Office to be affixed at the City of
Washington, D.C. this fourth day of February, in
the year two thousand and five.

Attest:


Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

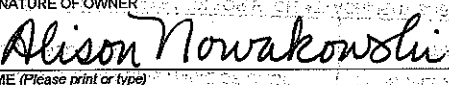
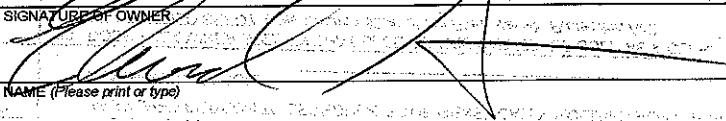
Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Idaho Research Foundation, Inc. representing the interests of the Idaho Agricultural Experiment Station and the University of Idaho		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME A9541S-10A-1	3. VARIETY NAME Super Dirkwin
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) PO Box 442337 University of Idaho Moscow, ID 83844-2337		5. TELEPHONE (include area code) 208-885-7173	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">FOR OFFICIAL USE ONLY</p> <p>PVPO NUMBER 200400296</p> <p>FILING DATE August 17, 2004</p> </div>
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Non-profit		6. FAX (include area code) 208-885-6654	
8. IF INCORPORATED, GIVE STATE OF INCORPORATION Idaho	9. DATE OF INCORPORATION 1947		
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Gregory A. Bohach PO Box 442337 University of Idaho Moscow, ID 83844-2337			<div style="border: 1px solid black; padding: 5px;"> <p>FILING AND EXAMINATION FEES: \$ 3652.00</p> <p>DATE 8-17-2004</p> <p>CERTIFICATION FEE: \$ 432.00</p> <p>DATE 10/5/04</p> </div>
11. TELEPHONE (Include area code) 208-885-7173	12. FAX (Include area code) 208-885-6654	13. E-MAIL agres@uidaho.edu	
14. CROP KIND (Common Name) Wheat	16. FAMILY NAME (Botanical) Triticace	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION	
15. GENUS AND SPECIES NAME OF CROP Triticum aestivum	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 		SIGNATURE OF OWNER 	
NAME (Please print or type) Alison Nowakowski		NAME (Please print or type) Edward Souza	
CAPACITY OR TITLE Asst. Director, IRF, Inc.	DATE 08/12/2004	CAPACITY OR TITLE Professor	DATE 8/5/04

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

1 **PVP Application A9541S-10A-1**

2 **Exhibit A, Origin and Breeding History of the Variety**

3 A9541S-10A-1 is a backcross derivative of the recurrent parent 'Centennial' with
4 the awnless characteristic transferred from the soft white spring wheat 'Dirkwin'. The
5 pedigree of A9541S-10A-1 is Centennial*4/Dirkwin. The backcrossing was conducted at
6 Aberdeen, Idaho by the University of Idaho staff by repeatedly crossing Centennial to the
7 awnless F1 plants of the previous backcross (the awnless trait in wheat is dominant to
8 awned). The third backcross, designated A9541S, was made in the University of Idaho,
9 Aberdeen greenhouse in 1995. The BC₃F₁ plants were planted in the field at Aberdeen in
10 spring 1995 and the seed from 10 awnless BC₃F₁ plants were threshed together and
11 designated A9541S-10A. The composited BC₃F₂ seed of A9541S-10A was planted at
12 Aberdeen Idaho in 1996 and harvested in bulk, without selection. The bulk harvested
13 BC₃F₃ seed of A9541S-10A was planted in 1997 at Aberdeen and individual awnless
14 heads harvested and threshed separately. Families of BC₃F_{3,4} seed from individual heads
15 were planted in single rows in 1998 at Aberdeen. The selection A9541S-10A-1 was
16 identified as a candidate for forage wheat use based on its late maturity and awnless
17 head-type in the 1998 headrow nursery. Confirmation of the uniformity and late maturity
18 for A9541S-10A-1 were made in 1999 in an unreplicated 43 m² plot planted at Aberdeen,
19 ID.

20 A9541S-10A-1 was tested in replicated grain yield trials in southern Idaho from
21 2000 to 2002 and forage trials in central California from 2002 to 2004. A9541S-10A-1 is
22 uniform for plant type, with no observed variants, and has remained stable during five
23 generations of evaluation, 2000 to 2004

1 PVP Application A9541S-10A-1

2 Exhibit B, Novelty Statement

3 A9541S-10A-1 is most similar to its recurrent parent Centennial. A9541S-10A-1
4 can be distinguished from Centennial by its awnless head type. Centennial is an awned
5 wheat cultivar.

6

7

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY
Wheat (*Triticum* spp.)**

NAME OF APPLICANT (S) Idaho Research Foundation, Inc. representing IAES and the U of Idaho	TEMPORARY OR EXPERIMENTAL DESIGNATION A9541S-10A-1	VARIETY NAME Super Dirkwin
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) PO Box 442337 University of Idaho Moscow, ID 83844-2337		PVPO NUMBER 200400296

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Royal Horticultural Soc. Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

- 1 = Common
2 = Durum
3 = Club
4 = Other (Specify) _____

2. VERNALIZATION:

- 1 = Spring
2 = Winter
3 = Other (Specify) _____

3. COLEOPTILE ANTHOCYANIN:

- 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:

- 1 = Prostrate 2 = Semi-erect 3 = Erect

5. PLANT COLOR: (boot stage)

- 1 = Yellow-Green
2 = Green
3 = Blue-Green

6. FLAG LEAF: (boot stage)

- 1 = Erect 2 = Recurved

- 1 = Not Twisted 2 = Twisted

- 1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

Number of Days (Average)

Number of Days Earlier Than *

Same As *

Number of Days Later Than *

Treasure - Soft White SpringCentennial - Soft White Spring

*Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

8. ANTER COLOR:

- 1 = Yellow 2 = Purple

9. PLANT HEIGHT: (from soil to top of head, excluding awns)

087

cm (Average)

03

cm Taller Than Centennial *Same As Whitebird *

08

cm Shorter Than Challis *

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10. STEM:

A. ANTHOCYANIN

1

1 = Absent 2 = Present

B. WAXY BLOOM

1

1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

2

1 = Absent 2 = Present

D. INTERNODE

1

1 = Hollow 2 = Semi-solid 3 = Solid

4

Number of Nodes

E. PEDUNCLE

1

1 = Erect 2 = Recurved 3 = Semi-erect

22

cm Length

F. AURICLE

2

Anthocyanin 1 = Absent 2 = Present

1

Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

A. DENSITY

1

1 = Lax
2 = Middense (Laxidense)
3 = Dense

B. SHAPE

2

1 = Tapering
2 = Strap
3 = Clavate
4 = Other (Specify) _____

C. CURVATURE

1

1 = Erect
2 = Inclined
3 = Recurved

D. AWNEDNESS

1

1 = Awnless
2 = Apically Awnletted
3 = Awnletted
4 = Awned

12. GLUMES: (At Maturity)

A. COLOR

1

1 = White
2 = Tan
3 = Other (Specify) _____

B. SHOULDER

4

1 = Wanting 2 = Oblique
3 = Rounded 4 = Square
5 = Elevated 6 = Apiculate
7 = Other (Specify) _____

C. SHOULDER WIDTH

2

1 = Narrow
2 = Medium
3 = Wide

D. BEAK

2

1 = Obtuse
2 = Acute
3 = Acuminate

E. BEAK WIDTH

2

1 = Narrow
2 = Medium
3 = Wide

F. GLUME LENGTH

2

1 = Short (ca. 7mm)
2 = Medium (ca. 8mm)
3 = Long (ca. 9mm)

G. WIDTH

2

1 = Narrow (ca. 3mm)
2 = Medium (ca. 3.5mm)
3 = Long (ca. 4mm)

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13. SEED:

A. SHAPE

- ☐ 1 1 = Ovate
2 = Oval
3 = Elliptical

B. CHEEK

- ☒ 1 1 = Rounded
2 = Angular

C. BRUSH

- ☐ 2 1 = Short
2 = Medium
3 = Long
- ☐ 1 = Not Collared
2 = Collared

D. CREASE

- ☐ 2 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel
- ☐ 2 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. COLOR

- ☐ 1 1 = White
2 = Amber
3 = Red
4 = Other (Specify) _____

F. TEXTURE

- ☐ 2 1 = Hard
2 = Soft
3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

- ☐ 3 1 = Ivory 4 = Dark Brown
2 = Fawn 5 = Black
3 = Light Brown

H. SEED WEIGHT

- ☐ 3 ☐ 1 g/1000 Seed (Whole number only)

I. GERM SIZE

- ☐ 1 1 = Small
2 = Midsize
3 = Large

14. DISEASE: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|---|---|
| <input type="checkbox"/> 0 Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input type="checkbox"/> 2 Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> 2 Stripe Rust (<i>Puccinia striiformis</i>) | <input type="checkbox"/> 2 Loose Smut (<i>Ustilago tritici</i>) |
| <input type="checkbox"/> 0 Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input type="checkbox"/> 0 Flag Smut (<i>Urocystis agropyri</i>) |
| <input type="checkbox"/> 0 Halo Spot (<i>Selenophoma donacis</i>) | <input type="checkbox"/> 0 Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input type="checkbox"/> 0 <i>Septoria nodorum</i> (Glume Blotch) | <input type="checkbox"/> 0 Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input type="checkbox"/> 0 <i>Septoria avenae</i> (Speckled Leaf Disease) | <input type="checkbox"/> 0 Kamal Bunt (<i>Tilletia indica</i>) |
| <input type="checkbox"/> 0 <i>Septoria tritici</i> (Speckled Leaf Blotch) | <input type="checkbox"/> 1 Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> 0 Scab (<i>Fusarium</i> spp.) | <input type="checkbox"/> 0 "Snow Molds" |
| <input type="checkbox"/> 2 "Black Point" (Kernel Smudge) | <input type="checkbox"/> 0 Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input type="checkbox"/> 0 Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> 0 Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input type="checkbox"/> 0 Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> 0 Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> 0 Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> 0 Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input type="checkbox"/> 0 Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |

15. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|--|--|
| <input type="checkbox"/> 0 Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> 0 Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> 0 Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (Specify) _____ |

15. INSECT: (continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

PLEASE SPECIFY BIOTYPE (Where Needed)

<input type="checkbox"/> 0	Russian Aphid (<i>Diuraphis noxia</i>)	<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/> 0	Greenbug (<i>Schizaphis graminum</i>)	<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/> 0	Aphids	<input type="checkbox"/>	Other (Specify) _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

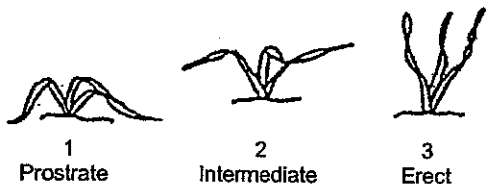
8

WHEAT DESCRIPTOR ILLUSTRATIONS

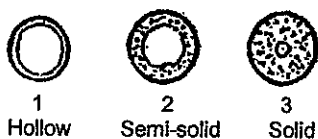
Section Numbers Correspond to the Numbers of the Sections on the Form

200400296

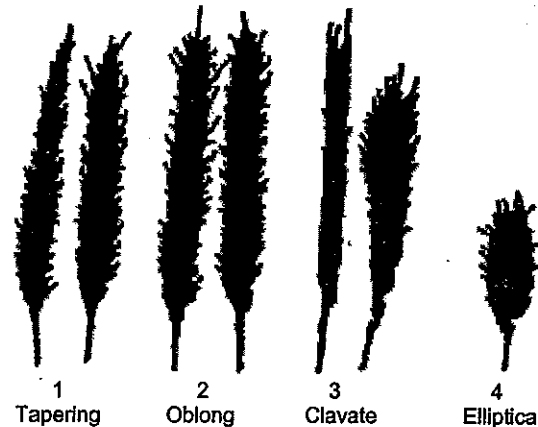
4. EARLY PLANT GROWTH HABIT:



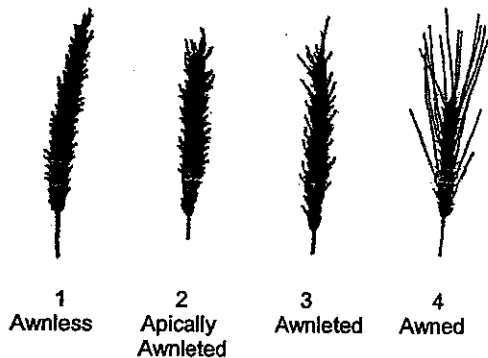
10. STEM INTERNODE X-SECTION:



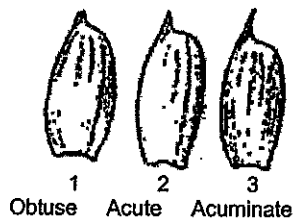
11. SPIKE SHAPE:



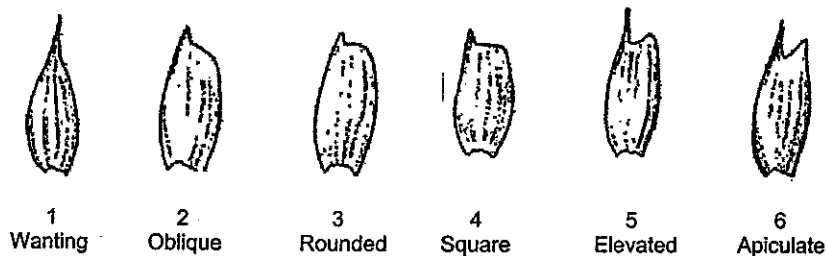
11. AWNEDNESS:



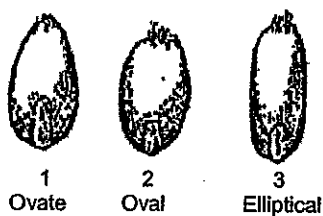
12. BEAK SHAPE:



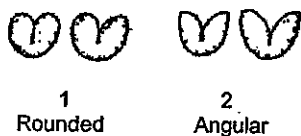
12. SHOULDER SHAPE:



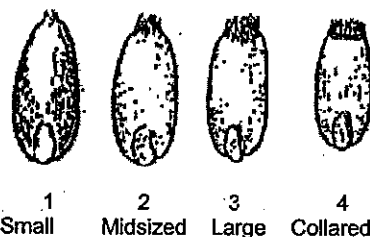
13. SEED SHAPE:



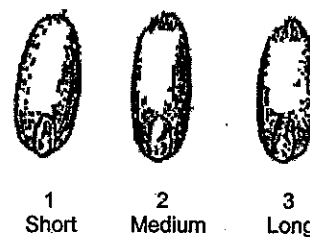
13. CHEEK SHAPE:



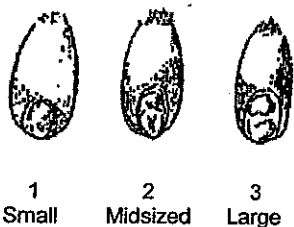
13. BRUSH SIZE



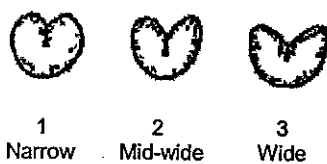
13. BRUSH HAIR LENGTH:



13. GERM (EMBRYO) SIZE:



13. SEED CREASE WIDTH:



13. SEED CREASE DEPTH:



1 **Plant Variety Protection Application: Super Dirkwin (A9541S-10A-1)**

2 **Exhibit D, Additional Description of Variety**

3 Super Dirkwin (A9541S-10A-1) is a soft white spring wheat adapted to the
4 western United States rain-fed and irrigated production. It has an unpigmented
5 coleoptile with semi-prostrate juvenile plant growth. The plant color at boot is
6 green, similar to 'Centennial' soft white spring wheat, the recurrent parent of
7 Super Dirkwin. Super Dirkwin has recurved, twisted flag leaves. Super Dirkwin
8 is similar to Treasure, in that it is later than most modern cultivars to reach ear
9 emergence (176 days after January 1). This is compared with 175 days after
10 January 1st for Whitebird, 173 days for Alturas and Jubilee, and 172 days for
11 Centennial. Super Dirkwin has yellow anthers, green heads at flowering, and
12 white-chaffed heads at maturity. Seed of Super Dirkwin is ovate, soft, white, with
13 rounded cheeks, and medium, uncollared brush. Super Dirkwin is resistant to
14 the dominant stripe rust (*Puccinia striiformis*, Westend) races prevalent in
15 California, Oregon, and Washington in spring 2004 (primarily races Pst98 and
16 Pst100).

17

1 **Plant Variety Protection Application: A9541S-10A-1**

2 **Exhibit D, Additional Description of Variety – Continued**

3

Evaluation of A9541S-10A-1 in grain yield trials in Idaho, 2000 to 2004

	Plant height	Heading date	Lodging 1=erect 9=flat	Grain yield bu/ac	Test weight lbs/bu
	cm	Jan 1+			
Whitebird	87	174.6	1.9	91.5	62.4
Treasure	83	175.2	4.0	94.2	60.7
Centennial	84	172.0	2.2	89.9	62.2
Alpowa	88	174.8	3.4	93.8	62.5
Penawawa	84	174.1	1.4	94.1	61.7
Jubilee	87	173.0	1.3	93.7	62.1
Alturas	85	173.4	2.1	98.1	61.4
Challis	95	173.1	3.7	97.1	62.3
<u>A9541S-10A-1</u>	<u>87</u>	<u>175.7</u>	<u>2.4</u>	<u>88.4</u>	<u>60.5</u>
Std. Error	0.9	0.6	0.5	2.2	0.2
No. of Environments	8	4	5	11	8

4

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6

1

Table 2. Milling and baking quality of Super Dirkwin.
Seven trials in 2000 and 2001.

	Break flour yield	Total flour yield	Flour protein	Cookie diameter
	%	%	%	cm
Super Dirkwin	37.0	63.1	9.1	8.4
Centennial	39.5	64.7	9.0	8.5
Penawawa	38.7	61.2	9.0	8.4
F (genotype)	ns	**	ns	ns
LSD		1.8		

2

3

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S)
Idaho Research Foundation, Inc. representing the interests of the Idaho Agricultural Experiment Station and the University of Idaho

2. TEMPORARY DESIGNATION
OR EXPERIMENTAL NUMBER
A9541S-10A-1

3. VARIETY NAME
Super Dirkwin

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)

PO Box 442337
University of Idaho
Moscow, ID 83844-2337
USA

5. TELEPHONE (Include area code)

208-885-7173

6. FAX (Include area code)

208-885-6654

7. PVPO NUMBER

200400296

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES ☐ NO

10. Is the applicant the original owner?

☐ YES ☒ NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is ☒ the original owner(s) a U.S. National(s)?
☒ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is ☐ (are) the original owner(s) a U.S. based company?
☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

A9541S-10A-1 was developed under the direction of Professor Edward Souza, University of Idaho. As an employee of the University of Idaho, under contractual arrangements of employment, all commercialized intellectual property is consigned to the Idaho Research Foundation. The Idaho Research Foundation is a non-profit corporation charged with the licensing of intellectual property from the University of Idaho. Forage evaluation in California of A9541S-10A-1 was conducted under a research agreement with Resource Seeds Incorporated, Zamora, CA. The research agreement between the University of Idaho and Resource Seeds Incorporated included awnless wheats from the University of Idaho that were homozygous for the awnless trait but unevaluated for their potential in the California forage market. The Idaho Research Foundation has a letter of intent to license A9541S-10A-1 to Resource Seeds Incorporated.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.